CLAIMS

1. A method for printing, comprising:

providing a printing system for printing a code on a product moving in a direction, the code being constructed from a plurality of pixels in a first data set indicating the positions of the pixels;

generating a corrected data set indicating the position that each pixel would occupy if each pixel was moved at the velocity of the product until the pixel was printed; and

printing the code according to the corrected data set.

2. The method of claim 1, wherein printing the corrected data set includes printing a two dimensional trace of pixels.

3. The method of claim 1, wherein printing the corrected includes printing a two dimensional trace of spots.

4. The method of claim 1, further comprising:

prioritizing the order in which the pixels are printed such that the pixels are printed in a direction which is opposite to the direction which the product moves.

5. The method of claim 1, wherein the printing system includes a laser mounted in a housing, the housing including an optics assembly configured to focus a printing beam produced by the laser onto a product positioned adjacent the housing.

1 6. The method of claim 1, wherein the printing system includes

2   a laser configured to produce a printing beam for printing the code on

3 a product;

4   a housing including a printing beam exit member through which the

5 printing beam exits the housing; and

6   an optics assembly within the housing, the optics assembly configured

7 to focus the printing beam on a product which is adjacent to the housing.

1 7. The method of claim 1, wherein the pixels are constructed from a

2 plurality of spots.

1 8. The method of claim 1, wherein the pixels are constructed from a

2 plurality of spots and the first data set indicates the positions of the spots in

3 the code.

1 9. The method of claim 1, wherein the pixels are constructed from a

2 plurality of spots and the corrected data set indicates the positions that each

3 spot would occupy if each spot were moved along with the product until the

4 spot was printed.

1 10. A printing system, comprising:

2   a laser for printing a code on a product moving in a direction, the code

3 being constructed from a plurality of pixels in a first data set indicating the

4 positions of the pixels;

5   electronics for generating a corrected data set indicating the position

6 that each pixel would occupy if each pixel was moved at the velocity of the

7 product until the pixel was printed; and

8 electronics for printing the code according to the corrected data set.

1 11. The method of claim 10, wherein printing the corrected data set

2 includes printing a trace of pixels in two dimensions.

1 12. The method of claim 10, wherein printing the corrected includes

2 printing a trace of spots in two dimensions.

1 13. The printing system of claim 10, further comprising:

2 electronics for prioritizing the order in which the pixels are printed

3 such that the pixels are printed in a direction which is opposite to the direction

4 which the product moves.

1 14. The printing system of claim 13, wherein the laser is mounted in a

2 housing, the housing including an optics assembly configured to focus a

3 printing beam produced by the laser onto a product positioned adjacent the

4 housing.

1 15. The printing system of claim 13, wherein the printing system includes

2 a laser configured to produce a printing beam for printing the code on

3 a product;

4 a housing including a printing beam exit member through which the

5 printing beam exits the housing; and

6 an optics assembly within the housing, the optics assembly configured

7 to focus the printing beam on a product which is adjacent to the housing.

1 16. The printing system of claim 13, wherein the pixels are constructed

2 from a plurality of spots.

1   17.   The printing system of claim 13, wherein the pixels are constructed

2   from a plurality of spots and the first data set indicates the positions of the

3   spots in the code.

1   18.   The printing system of claim 13, wherein the pixels are constructed

2   from a plurality of spots and the corrected data set indicates the positions that

3   each spot would occupy if each spot was moved along with the product until

4   the spot was printed.

1   19.   A method for printing on a product, comprising:

2   providing a printing system for printing a code on a product which is

3   adjacent to the printing system and which is moving in a direction relative to

4   the printing system, the code constructed from a plurality of pixels; and

5   prioritizing the order in which the pixels are printed such that the

6   pixels are printed in a direction which is opposite to the direction which the

7   product moves.

1   20.   The method of claim 19, wherein an aperture limits the area within

2   which the laser is able to print and the product moves past the aperture.

1   21.   The method of claim 20, wherein the pixels are prioritized such that

2   pixels which would cross in front of the aperture earlier are given a higher

3   priority than pixels which would cross in front of the aperture later if the

4   pixels were already printed on the product as the product moves past the

5   aperture.

1   22.   The method of claim 19, wherein the pixels are each constructed from

2   a plurality of spots and prioritizing the order in which the pixels are printed

3   includes prioritizing the order which the spots are printed such that the spots

4   are printed in a direction which is opposite to the direction which the product

5   moves.

1   23.   The method of claim 19, wherein the pixels are arranged in a first data

2   set indicating the positions of the pixels, and further comprising:

3   generating a corrected data set indicating the position that each pixel

4   would occupy if each pixel were moved along with the product until the pixel

5   was printed.

1   24.   The method of claim 19, wherein the pixels are arranged in a plurality

2   of columns and prioritizing the order which the pixels are printed includes

3   prioritizing each of the columns.

1   25.   The method of claim 19, wherein the printing system includes

2   a laser mounted in a housing, the housing including an optics assembly

3   configured to focus a printing beam produced by the laser onto a product

4   positioned adjacent to the housing.

1   26.   The method of claim 19, wherein the printing system includes

2   a laser configured to produce a printing beam for printing the code on

3   a product;

4   a housing including a printing beam exit member through which the

5   printing beam exits the housing; and

6   an optics assembly within the housing, the optics assembly configured

7   to focus the printing beam on a product which is adjacent to the housing.

1   27.   A printing system, comprising:

2   a laser for printing a code on a product which is adjacent to the

3   printing system and moving in a direction relative to the printing system, the

4   code constructed from a plurality of pixels; and

5   electronics for prioritizing the order in which the pixels are printed

6   such that the pixels are printed in a direction which is opposite to the direction

7   which the product moves.

1   28.   The printing system of claim 27, wherein an aperture limits the area of

2   the product on which the laser is able to print as the product moves past the

3   printing system.

1   29.   The printing system of claim 28, wherein the pixels are prioritized

2   such that pixels which would cross in front of the aperture earlier are given a

3   higher priority than pixels which would cross in front of the aperture later if

4   the pixels were present on the product before being printed by the printing

5   system.

1   30.   The printing system of claim 27, wherein the pixels are each

2   constructed from a plurality of spots and prioritizing the order in which the

3   pixels are printed includes prioritizing the order which the spots are printed

4   such that the spots are printed in a direction which is opposite to the direction

5   which the product moves.

1   31.   The printing system of claim 27, wherein the pixels are arranged in a

2   first data set indicating the positions of the pixels, and further comprising:

3   generating a corrected data set indicating the position that each pixel

4   would occupy if each pixel were moved along with the product until the pixel

5   was printed.

1 32. The printing system of claim 27, wherein the pixels are arranged in a
2 plurality of columns and prioritizing the order which the pixels are printed
3 includes prioritizing each of the columns.

1 33. A method for printing, comprising:
2 providing a printing system for printing an alphanumeric code on a
3 product moving in a direction, the code being constructed from a plurality of
4 pixels; and
5 printing pixels on the product in a two dimensional trace so as to form
6 the code on the product.

1 34. A method of printing, comprising:
2 providing a printing system for printing an alphanumeric code on a
3 product moving in a direction, the code being constructed from a plurality of
4 pixels; and
5 changing the density of the pixels that construct the code.

1 35. The method of claim 34, wherein the density of the pixels is changed
2 in accordance with the amount of time available to print the code on the
3 product.

1 36. A printing system, comprising:
2 a laser for printing an alphanumeric code on a product that is adjacent
3 to the printing system and moving in a direction relative to the printing
4 system, the code constructed from a plurality of pixels; and
5 electronics for printing pixels on the product so as to form the code on
6 the product, the pixels being printed in a two dimensional trace.